Space Weather Forecast

Issued on Monday, 01 August 2022 at 12:23 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

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Space Weather Forecast Headline: Chance of Active geomagnetic activity over the next 4 days.

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Solar activity has been low over the past 24 hours, with one common class flare from the eastern limb around 31/2310 UTC. There is currently one sunspot on the visible disc, AR3068 which has shown a slight increase in length in the past 24 hours but no notable increase in complexity. No Earth-directed CMEs were observed.
Solar Wind / Geomagnetic Activity: Solar winds indicate an ongoing fast wind from a coronal hole. Wind speeds have become slightly elevated to elevated. The total interplanetary magnetic field was moderate before declining to weak as was the north-south component. Geomagnetic activity was mostly Unsettled to Active before becoming mainly Quiet after 01/0001 UTC.
Energetic Particles / Solar Radiation: The count rate of energetic particles remained at background with no solar radiation storms observed.

Four-Day Space Weather Forecast Summary

Solar Activity: Low solar activity is expected to continue, with a slight chance of M-class flares. Flare risks will be reviewed due to the likelihood of further active regions rotating onto the visible disk in coming days.
Solar Wind / Geomagnetic Activity: No Earth directed CMEs are currently expected. Solar winds are slightly-elevated due to the onset of the fast wind from a coronal hole. Solar winds are expected to remain elevated or slightly elevated until later on day 3 or day 4 (03 or 04 Aug), when wind speeds are expected to fall back to background levels.
Geomagnetic activity should remain mainly Quiet with a chance of Unsettled or Active intervals through the period.
Energetic Particles / Solar Radiation: The count rate of energetic particles is forecast to remain at background with no solar radiation storms occurring.

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Met Office Space Weather Forecast

Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	10	10	10	10
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	No	20	20	20	20
Very Active	R3 to R5 X	No	1	1	1	1

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	1	1	1	1
Very Active	≥ S3 *	No	1	1	1	1

* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)

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